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# Wetlands and biodiversity

PHOTO BY JOHN MWACHARO

**Livestock grazing at Dide Waride, Tana River Delta.**

BY GEORGE ODERA, EMILY MATECHE AND SERAH MUNGUTI

February 2 is World Wetlands Day. This day commemorates the signing of the Convention on Wetlands of International Importance (the Ramsar Convention) in Ramsar, Iran, 49 years ago. It's also a day set aside to raise public awareness on wetland values to promote their conservation and wise use.

Wetlands are amongst the most productive ecosystems on earth. Wetlands provide water for daily use, soils for agriculture, fish for food, pasture for cattle and materials for construction. Millions of people across the world, including Kenya, directly depend on them for their livelihoods! These unique ecosystems also provide essential services such as flood control, water filtration, protecting soil from erosion and carbon sequestration (removing carbon from the atmosphere and depositing it in a reservoir – in this case, in plants).

We dedicate this issue to highlighting some of the measures being undertaken by Nature Kenya to conserve two of the country's most important wetlands – the Tana River Delta and Yala Swamp.

## The Tana River Delta

The Tana River Delta is an unprotected wetland on the Kenyan coast. The Delta, a designated Key Biodiversity Area (KBA), covers 130,000 ha and is Kenya's largest wetland. The Tana River Delta is also a designated Ramsar site – a recognized wetland of global importance. The Delta's abundant biodiversity is a reflection of its rich and diverse habitats which comprise of a vast patchwork of palm savannah, seasonally flooded grassland, forest fragments, acacia woodlands, lakes, marine wetlands and the river itself. The Tana River Delta is, therefore, one of the most important wetlands in Africa.

The Tana River Delta is also known for being a highly fragile and dynamic wetland system, flooding in times of good rain and drying off again. Over the years, Nature Kenya has been working with the people of the Delta, seeking to maintain a balance as any small change in the hydrological system could potentially upset the delicate natural balance, disrupting the ecosystem.

Nature Kenya is currently involved in the implementation of the Tana River Delta Land Use Plan (LUP). The LUP's implementation process seeks to ensure that biodiversity needs are considered in the planning of development activities within the Delta. In the past, during planning processes, the intangible ecosystem services offered by the Delta were often overlooked.

The Tana Delta LUP was developed between 2011 and 2016 in a process that brought together local communities, over 18 government ministries and departments, the county governments of Tana River and Lamu, and international planning experts who offered technical assistance. The process aimed at striking a balance between human development needs and the conservation of biodiversity. A Strategic Environmental Assessment (SEA) informed the development of the Tana River Delta Land Use Plan, unlike all other planning processes previously conducted in the country.

Through a Darwin Initiative funded project, local communities, county governments of Tana River and Lamu and national government agencies with the support of Nature Kenya have identified 95,000 ha out of the 130,000 ha in the Delta for the establishment of Indigenous and Community Conserved Areas (ICCAs). As part of the implementation of the Land Use Plan, Nature Kenya is supporting the designation of ICCAs to conserve important cultural values and biodiversity and also promote ecotourism. The ICCAs will ensure that biodiversity conservation is recognized as a key use for land equal to other uses such as farming, pastoralism and fishing. Nature Kenya has also targeted the restoration of at least 10,000 ha of land to enable and foster the increased survival of biodiversity.

Currently, Nature Kenya is engaging and supporting local communities to promote sustainable crop, livestock and fish farming, ecotourism, beekeeping and other nature-based enterprises. This will complement and support the conservation of wildlife and other forms of biodiversity. All stakeholders, including the National and County government ministries and departments, community-based organizations, non-governmental organizations, local communities and private investors, are being encouraged to take action towards a sustainably managed Tana Delta. The Tana Delta Conservation Network – the Tana River Delta KBA site support group – is the taking lead in coordinating conservation activities within the community areas.

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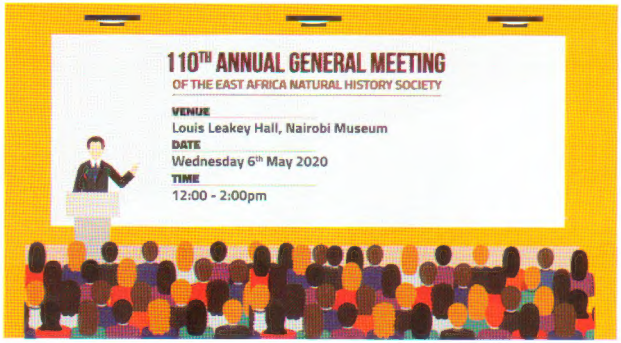

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To further ensure that biodiversity conservation has support at the village level and that local communities own the process, Nature Kenya has formed Village Natural Resource and Land Use committees in all Delta villages to facilitate governance, conservation and development actions.

### Yala Swamp

Yala swamp lies on the north-eastern shore of Lake Victoria. The swamp is Kenya's largest freshwater wetland (the Tana Delta is both freshwater and marine), a Key Biodiversity Area and a proposed Ramsar site. Thousands of communities depend on the wetland for fishing and farming as core backbone livelihood activities.

The wetland, however, faces a myriad threats. Over-exploitation of its natural resources is one major threat. Others are encroachment, habitat degradation and biodiversity loss. Through a multi-stakeholder approach, Nature Kenya worked with local communities and the Siaya and Busia county governments to develop a Land Use Plan to balance the various interests within the wetland. This plan has been endorsed by H.E. Cornel Rasanga, Governor Siaya County, H.E. Sospeter Ojaamong', Governor Busia County and H.E. The Rt. Hon. Raila Odinga, Prime Minister, Republic of Kenya (2008-2013) and African Union High Representative for Infrastructure Development.

Nature Kenya, through funding from the Darwin Initiative, is now keen on supporting the adoption and implementation of the Land Use Plan to ensure development overall is sustainable and compatible with biodiversity protection. As part of the implementation of the Land Use Plan, Nature Kenya is supporting the designation ICCAs to conserve important cultural values and biodiversity and also promote ecotourism. Initial sensitization meetings with the national and county administration are on-going, spearheaded by the Yala Ecosystem Site Support Group (the Yala Swamp KBA site support group). Awareness creation meetings on ICCAs will culminate into the formation of village-level Natural Resource and Land Use Committees. The Land Use committees will be supported to deliver ICCA conservation actions on the ground. The Land Use committees will also be an integral part of the ICCA governance structure.

## Herps of Dakatcha Woodland: a first glimpse

Speke's Sand lizard. Photo credit: Darwin Initiative

BY JACINTA NJERI AND HAMISI ALI

Dakatcha Woodland is famed for its unique bird species. However, little is known about its other flora and fauna. To begin to bridge this gap, members of the Kenya Herpetofauna Working Group set out to explore the amphibians and reptiles of this expansive woodland and also share information on snakebite management with the local community. The excursion took place on 21-22 September 2019. Julio Mwambire, a local guide, welcomed the team to Marafa. Divided into two groups, the team proceeded to the forest in search of herpetofauna at the Marafa Community Conservation Area. Two hours later the groups emerged with interesting findings: three species of lizards and one snake were recorded!

The hot sun took a toll on everyone and the party retreated to the campsite to pitch tents and prepare lunch. During the lunch break, three other lizard species were recorded: Sudan plated lizard, Large-headed Tree gecko and Tree skink. The most abundant on the roof was the Mombasa Dwarf gecko.

In the evening the team set out again, this time in search of amphibians. Julio took the team to the Kwanguluwe pond that was teeming with different species of frogs that were croaking. Some team members searched around the pond's edges with flashlights seeking to identify the croaking frogs. Male frogs sat on stones and leaves floating on water. Frogs recorded were the East African (Acridoides) Puddle frog, Red-legged Kassina, Galam's White-lipped frog and Guttural toad.

The team, excited from the findings at Kwanguluwe pond, requested Julio to take them to a nearby pond – Agina dam. Agina dam appeared to be more crowded than Kwanguluwe. The croaking sounds from the dam could be heard from the main road. Six frog species were recorded there, four of which had not been spotted at Kwanguluwe. The team returned to the camping site at around 10 pm.

Having not recorded a single snake species, four team members embarked on a survey around the campsite in search of them. Thirty minutes into the search no snake had been spotted. Just as the group was about to call off the search, screams from one member alerted the rest of a snake sighting. Fortunately, the snake was a harmless Brown House snake.

The next morning, the team headed to the Bore Community Forest Centre for opportunistic searches. The site was on an eroded hill and it was quite easy to climb down the hill. Three snake species were recorded at this site: Speckled Sand snake, Spotted Green snake and Spotted Beaked snake.

The peak moment of the day was the awareness session with community members at Kafunyalalo Primary School in Marafa. Community members were educated on the various types of snakes, both venomous and non-venomous, found in their locality. Lack of knowledge on snakes among the people was evident from the interaction, and the team took time to differentiate the venomous

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and non-venomous snakes. The local people acknowledged seeing snakes with some having killed several. Snake bites were apparently a big problem in the area with a majority of the community members knowing at least one person who had been bitten. Getting treatment for snake bites was a major challenge to the local people as the nearest health facility was far and transport was poor in their area. Other topics discussed were how to avoid snake bites, do's and don'ts of snake bites and snake bite treatments. Myths and misconceptions about snakes and traditional snakebite treatment methods were also shared, and the team dispelled some of the myths.

That evening the team explored Hell's Kitchen in search of more reptiles, snakes in particular. Hell's Kitchen – a dramatic erosion feature – is a major tourist attraction in Dakatcha and is famed for its beautiful sunsets. The hike was exciting as the team explored the dark gorges with the aid of flashlights and took photos of the amazing view of the canyons. There was panic when the team got lost in the middle of the gorges under darkness. They, however, traced their way back by following footsteps.

The team is grateful to Nature Kenya for providing funds for this project, the Herpetology Section of the National Museums of Kenya under the leadership of Dr P.K. Malonza, and members of the Kenya Herpetofauna Working Group led by Dr Beryl A. Bwong for their contribution and support towards the success of this project.

## 3 bright lights and a dimming star

BY FLEUR NG'WENO

Three bright lights shine in the evening sky this month – visible even from lighted city streets: The planet Venus in the west, over the sunset; the star Sirius across the sky, high in the southeast; and the star Canopus in the south.

If you are in a dark location on a clear night, you will see many more stars. The people who travel over wide open spaces, such as the desert or the sea, gave names to the stars. They imagined that some stars formed patterns in the sky, and also gave names these patterns, or constellations. Today in English, we mainly use the names given by ancient Greek and Arab astronomers.

The constellation, or group of stars, that the ancient Greeks called Orion, the Hunter or Warrior, rises due east and is high in the east on February evenings. To the Greeks, Orion seems to march across the sky; to us on the equator, he appears to be lying down at first.

Three bright stars in a row form Orion's belt, and three fainter stars in a row are his sword. Four bright stars mark Orion's shoulders and knees. A blue-green star, Rigel, marks one 'knee' in the west. An orange-coloured star, Betelgeuse, forms one 'shoulder' in the northeast. A group of fainter stars are Orion's head. With binoculars, you can see the glowing nebula M42 in Orion's belt.

Two 'hunting dogs' follow Orion the Hunter in the sky. One the dogs is Sirius – that bright light in the southeast. The other dog, Procyon, is east of Orion. On the other side of Orion, in the northwest, is the reddish star Aldebaran. Beyond Aldebaran is a group of several stars close together: the Pleiades or Seven Sisters.

Further north, lower in the sky, five bright stars mark the corners of a pentagon shape. This constellation is Auriga, the Charioteer. The brightest of the five is the star Capella

### Focus on Betelgeuse

You can see the star named Betelgeuse by ancient Arab astronomers as part of Orion – it's to the left (north) of the 3-star 'belt'. It looks orange in colour. Astronomers have long known that it is a 'red supergiant' star and that it varies in brightness. Since October 2019, however, Betelgeuse has become dimmer and dimmer. Even to the naked eye it looks fainter than last year.

Perhaps the dimming is part of Betelgeuse's variability and it will grow bright again. Some scientists think, however, that the star might explode into a "supernova". When could it happen? We don't know; it could be tomorrow or thousands of years from now. Betelgeuse is about 700 light years away (we don't know exactly) – so we have to wait some 700 years for its light to reach us! It's so far away, however, that there is probably no danger to the Earth if Betelgeuse explodes.

### Moon, Feb '20

2 Feb – first quarter. 9 Feb – Full moon. 15 Feb – last quarter. 23 Feb – new moon.

### February Sun

This is the time of the latest sunrises and sunsets of the year. For most of February, the sun sets as late at 6:51 in Nairobi.

### Morning Sky:

The planets Mars, Jupiter and Saturn are in the pre-dawn sky. Jupiter is the brightest. The waning crescent moon is near Mars on Feb 18, between Mars and Jupiter on the 19th, and between Jupiter and Saturn on the 20th.

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## FEBRUARY 2020 AT A GLIMPSE

| | |
|---|---|
| Feb 5th | Morning Bird Walk |
| Feb 8th | FoNA Tree Walk |
| Feb 12th | Morning Bird Walk |
| Feb 16th | Sunday Bird Watch |
| Feb 22nd | FoCP Nature Walk |
| Feb 19th | Morning Bird Walk |
| Feb 26th | Morning Bird Walk |

Bird ringing every Tuesday morning (check with Ornithology section, National Museums).

**Birders Please Note! The Wednesday Morning Birdwalks meet at 8:30 am at the Nairobi National Museum. Transport is on a self-help basis. The group meets in the courtyard of the Nairobi National Museum, past the entrance to the galleries. We normally return at about 12:30 pm.**

**The Sunday Birdwatch on the THIRD Sunday of each month now also meets at 8:30 am, at the same location. It is a day trip; please bring water and lunch.**

**Mombasa Birdwalks** On the 3rd Saturday of each month. For meeting time and place, please contact Taibali Hamzali <thamzali@gmail.com> / 0733-980540; or Doris Schaule <dorischaule@gmail.com> / 0722-277752. Or check Facebook page: <https://www.facebook.com/groups/FFJmombasa/>

*Contact the office for information on other birdwalks in Kakamega, Kisumu, and other sites*

**Ngong Forest walks** - 1st and 3rd Saturday at 9.00 am. Contact Simon 0729-840715

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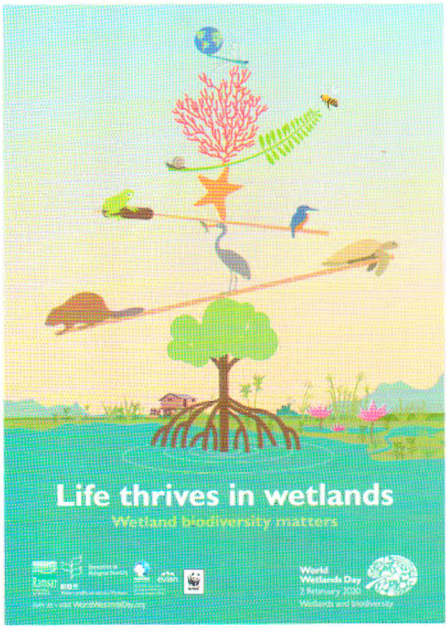


## Hell's Gate National Park Day Excursion

14th March 2020

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**For details on associated groups such as Youth Committee, Succulenta, and Friends of Nairobi Arboretum, City Park or Arabuko-Sokoke Forest, contact office@naturekenya.org**